

# Maternal diet sets up junk food addiction in babies, study finds

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(Medical Xpress)—Research from the University of Adelaide suggests that mothers who eat junk food while pregnant have already programmed their babies to be addicted to a high fat, high sugar diet by the time they are weaned.

In laboratory studies, the researchers found that a junk [food diet](#) during pregnancy and lactation desensitised the normal [reward system](#) fuelled by these highly palatable foods.

Led by Dr Bev Mühlhäusler, Postdoctoral Fellow in the University's FOODplus Research Centre, this is the first study to show the effects of maternal junk [food consumption](#) at such an early stage in the offspring's life. The study was published recently in *The FASEB Journal*.

Opioids are produced by the body as a reward response, including in response to fat and sugar. These opioids stimulate the production of the "feel good" hormone dopamine, which produces a good feeling.

"We found that the opioid signalling pathway (the reward pathway) in these offspring was less sensitive than those whose mothers were eating a standard diet," Dr Mühlhäusler says.

This means that children being born to a mother who ate a diet dominated by junk food would need to eat more fat and sugar to get the same good feeling, increasing their preference for junk food. It would also encourage them to overeat.

"In the same way that someone addicted to [opioid drugs](#) has to consume more of the drug over time to achieve the same 'high', continually producing excess [opioids](#) by eating too much junk food results in the need to consume more foods full of fat and sugar to get the same pleasurable sensation," says Dr Mühlhäusler.

"Mothers eating a lot of junk food while pregnant

are setting up their children to be addicted.

"Although our research shows that many of the long-term health problems associated with maternal junk food diets can be avoided if offspring carefully follow a [healthy diet](#) after weaning, they are always going to have a predisposition for [overconsumption](#) of junk food and obesity. It's going to make it much more difficult for them to maintain a healthy body weight."

Dr Mühlhäusler says it is important to try and understand the effects of the maternal diet at a very early stage in the offspring to see what systems could be targeted, if any, to reverse the problem.

Initial findings from further work, however, have suggested the alterations to the opioid receptors are permanent.

"The take-home message for women is that eating large amounts of junk food during pregnancy and while breastfeeding will have long-term consequences for their child's preference for these foods, which will ultimately have negative effects on their health," Dr Mühlhäusler says.

Provided by University of Adelaide

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